

New and Rare Malayan Plants.

Series VIII.

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Herewith I give an account of some additions to the Flora of the Malay Peninsula, with notes on species insufficiently or incorrectly described, in continuation of the Series previously described in the Journal.

Ryparosa Wallichii, n. sp. (*Bixaceæ*). A tree; branches when young covered with red hair. *Leaves* glabrous above, coriaceous, lanceolate-oblong, base slightly narrowed, apex acute, pale whitish beneath, 8-9 inches long, 2 inches wide, the nerves five pairs, elevated, ascending, often hairy beneath; midrib also hairy; petiole 1.5 inches long, hairy. *Male racemes* axillary or from the trunk of the tree, 6-8 inches long; bracts small, lanceolate; pedicels .25 inches long. Flowers .2 inches long, yellow. *Sepals* 5, short, ovate, hairy. *Petals* rounded, hairy, much larger than the sepals, with the scale inside about half as long, and hairy. *Staminal* column glabrous: anthers 4, oblong.

SINGAPORE: Gardens' jungle (*Ridley*). PENANG: "A climber from the hills, October" (*Wallich* 7847B); Herb. Finlayson (*Wallich* 7847A).

Wallich's specimens are like the Botanic Gardens ones—male, but with young spikes, axillary and quite short. Those from the Gardens' jungle were fully developed and borne on the trunk. Wallich describes it as a climber from the Penang hills; but it has not been collected again, and as no species of the genus is a climber, it is possible that the label is wrongly affixed. The species is chiefly remarkable for its narrow leaves and hairy inflorescence.

Xanthophyllum puberulum, n. sp. (*Polygalaceæ*). A large shrub with pubescent branches. *Leaves* oblong-elliptic or lanceolate, cuspidate, shortly narrowed at the base, thinly coriaceous, 5.5 to 8 inches long, 2.25 to 2.75 inches broad, nerves 5 to 6 pairs, elevate beneath; reticulations large, all pubescent: petiole .25 inches long. *Flowers* white, in short terminal panicles 2 to 3 inches long, pubescent: branches few. *Sepals* unequal, ovate obtuse, minutely pubescent. *Petals* spatulate, glabrous: keel slightly pubescent. *Stamens* glabrous except at the base. *Ovary* villous, stipitate; ovules 4.

SELANGOR: by the stream at Klang Gates (*Ridley* 13396). DINDINGS: at Lumut (*Ridley* 10366). Flowering in August.

A handsome bush, distinguished by its villous 4-ovuled ovary and pubescent leaves.

Chodat in the *Bulletin de l'Herbier Boissier*, iv. p. 255, has published a revision of this genus since it was described by King in the *Materials for a flora of the Malay Peninsula*, and made several corrections and additions:—

X. ellipticum, King, is not the species described by Miquel under that name, but a plant of the Malay Peninsula which is now called *X. Kingii*, Chodat.

X. eurhynchum, King, is also not Miquel's plant, and is renamed *X. verrucosum*, Chodat (l.c. 263).

X. glaucum, Wall. Chodat separates King's plant from Wallich's, as *X. microcarpum*, saying that it has "Fructus parvus nec verrucosus nec costatus" which is an excellent description of Wallich's type of *X. glaucum*. King's plant from Trang is absolutely identical with Wallich's *X. glaucum*.

He describes two new species.

X. hebecarpum, Chodat (l.c. 263) based on imperfect fruiting specimens collected in Pangkor (Curtis 1639) with large velvety fruit.

X. discolor, Chodat (l.c. 257). A small tree with leaves glaucous beneath, and rather large white flowers, collected by me at Seletar and in the Gardens' jungle, Singapore.

Garcinia clusiaefolia, n. sp. (*Guttifera*). A tree, with black branches not angled. Leaves stiffly coriaceous, obovate, apex obtuse, base cuneate, nerves very fine inconspicuous above, invisible beneath, 5.5 inches long, 2.25 to 3 inches wide, drying greenish; petiole .5 inches long, stout, not wrinkled. *Male flowers* in fascicles upon axillary tubercles 10 or more in a fascicle, very small, .1 inch long; bracts ovate, numerous; pedicels thick, .25 inches long. *Sepals* 4, 2 outer coriaceous orbicular concave, 2 inner thinner obovate oblong. *Petals* oblong, obtuse, as long as the sepals. *Stamens* connate into a subconic mass, not lobed; anthers sessile, minute, 2-celled, cells separated by the broad subtriangular connective. *Pistillode* 0. *Female flowers* and fruit not seen.

PAHANG: at Wray's camp on Gunong Tahan (Ridley 16242).

Allied to the lowland swamp-loving *G. bancana*, Miq. but distinct in the more finely and numerously veined foliage, much shorter and thicker petiole, smaller flowers, and the connective of the anther triangular, with the cells at the point and so closer together, and not quadrate as in *G. bancana*.

Garcinia pyriterum, n. sp. (*Guttifera*). A tree; branchlets yellow, angled. Leaves coriaceous, drying light greenish, elliptic, subacute, shortly narrowed at the base, 3.5 inches to

5·5 inches long, 1·75 to 2·25 inches wide, nerves very numerous horizontal meeting in an intra-marginal nerve close to the edge; reticulations visible; costa rounded; edge not thickened; petiole very stort, wrinkled, ·5 inches long. *Male flowers* not seen. *Female flowers* solitary, axillary from tubercles covered with short ovate bracts. *Fruit* obovoid pear-shaped, narrowed at base, widest near apex, tip depressed, 2·5 to 3 inches through, on a long 1·75 inches peduncle, yellow. *Sepals* persistent, small, ovate. *Stigma* small, 5-lobed, lobes rounded. *Seeds* 2-3, reniform, brown, 1 inch long, ·25 inches wide.

PENANG: Penara Bukit (*Curtis* 3094).

Near *G. densiflora*, King, of which the female is unknown but the foliage is quite different, the texture being thinner; and drying pale, the midrib is not acute and the margin not thickened.

Ternstroemia montana, n. sp. (*Ternstræmiaceæ*). Branches stout, grey. *Leaves* thick, coriaceous, obovate to oblanceolate, blunt, long-narrowed to the petiole, 2·5 to 3 inches long, 1-1·25 inches wide, nerves above invisible, beneath often invisible but sometimes distinct, 3-4 pairs, arched, and anastomosing some way from the margin. *Flowers* in the upper axils of the leaves or below the leaves: pedicels short and thick ·20 inches long: flowers ·5 inches across glabrous. *Sepals* subequal, rotund, coriaceous. *Petals* coriaceous, rotund, edges denticulate. *Stamens* glabrous: anthers linear, oblong, longer than the filament.

PERAK: Gunong Kerbau at 4500 feet (*Robinson*).

This differs from *T. Maclellandi*, Ridl. for which I at first took it in the nervation, which in that species so far as it is ever visible is horizontal slightly ascending, in this it is curved in the centre and anastomoses some way from the edge, the flowers are bigger, the pedicels much shorter and thicker, the petals coriaceous and minutely denticulate.

Gordonia singaporeana, Wall. *Cat.* 1457, (*G. grandis*, King in Journ. As. Soc. Bengal, lix. (1890) p. 203) (*Ternstræmiaceæ*). There seems to have been some confusion as to the *Gordonias* of the low country of the Malay Peninsula. The type of *G. singaporeana* referred by King to his *Gordonia excelsa*, is undoubtedly the common *G. grandis* King, a native of Singapore. This species is closely allied to the true *G. excelsa*, Bl. of Java, resembling it in the leaves in which the lamina is decurrent on the petiole, differing in the rather smaller flowers, and silky pubescence of the bud and young shoot. *G. grandis* having these parts quite glabrous.

G. excelsa, King, is a totally different plant, and has rather an affinity with *G. Maingayi* as King suggests than with the *G. excelsa*, Bl. I describe it under the name of *G. penangensis*.

Gordonia penangensis, n. sp. (*G. excelsa*, King l.c. 203 not of Blume) (*Ternstroemiaceæ*). A tree 30 to 40 feet tall, 10-15 inches through the stem, branchlets silky pubescent. Leaves thinly coriaceous, glabrous, lanceolate elliptic acuminate, edges serrulate or entire, base acuminate, 2.5 to 4 inches long, 1-1.75 inches wide, nerves very faint sometimes almost invisible 5 to 7 pairs inarching doubly within the edge: petiole .25, creamy white or yellow: pedicel very short silky. *Sepals* rounded, silky outside. *Petals* round, narrowed at the base, backs silky. *Stamens* very numerous: anthers oblong. *Ovary* conic, silky: style 1, stout, pubescent, 5-lobed. *Capsule* 5- or 6-angled, 1.25 to 1.5 inches long, conic, hairy or glabrescent, valves acute.

PENANG: common on Penang Hill (*Curtis*), and I have also found it in SINGAPORE at Seletar (6214 and 3913 of my collection).

Gordonia hirtella, n. sp. (*Ternstroemiaceæ*). A tree with silky buds and shoots. *Leaves* coriaceous, elliptic lanceolate, acuminate, base narrowed subacute, nerves very fine much reticulate, the secondary nerves and reticulations as distinct as the primary nerves, above almost as invisible as on the lower surface, margins crenulate or entire, above glabrous, beneath appressed hairy, 3.5 to 6 inches long, 1.5 to 2 inches wide; petiole .25 inches long. *Flowers* rather small, cream coloured; peduncles silky .1 inch or less long. *Sepals* orbicular, silky tomentose, .2 inches long. *Petals* obovate, silky on the back. *Stamens* apparently few. *Capsule* .75 inches long, appressed pubescent outside, valves subacute.

SELANGOR: in mountain forests, Bukit Kutu at 3000 feet (*Ridley* 7350). PERAK: Gunong Batu Puteh (*Wray* 1116).

This species is nearest to *G. dipterosperma*, Kurz, of Bhotan. The leaves are more coriaceous, and it is more hairy, and the hairs do not spring from large pustules on the leaf as in that species. From *G. penangensis* it differs in the hairy backs of the leaves and smaller flowers and fruits. The nervation is much the same as in *penangensis* but the reticulation is more elaborate.

Hopea albescens, n. sp. (*Dipterocarpaceæ*). *Leaves* coriaceous, ovate to elliptic, acuminate, apex blunt, base rounded, glabrous, nerves 8 pairs very slender almost invisible above, 2.75 to 3 inches long, 1.25 inches wide: petiole .4 inches long. *Panicles* axillary and terminal, 3-4 inches long. *Flowers* subsecund, white tomentose, shortly pedicelled. *Sepals* lanceolate ovate, obtuse. *Petals* .2 inches long, a little longer than the sepals, oblong, broad, blunt, pubescent outside. *Stamens* 15, filaments elongate triangular; anther elliptic, seta very fine, as long as the anther. *Ovary* pubescent; style short.

PAHANG: at Raub (*Burn-Murdoch*) "Merawan."

This species is allied to *H. odorata*, Roxb. of Tenasserim, but has smaller leaves more coriaceous, fewer nerved, and more abruptly acuminate, flowers distinctly pedicelled (not sessile as in *H. odorata*), petals smaller and the filaments different in shape.

***Hopea Lowii*, Brandis.** This moderate sized tree has not previously been recorded from the Malay Peninsula. I have met with it at Chua Chu Kang, (No. 6685 of my collections) but I believe the only tree I ever saw there is gone now: and I have had it also from Muar, and Penang Waterfall (*Curtis* 3635). It is also a native of Borneo and Sumatra.

***Durio singaporensis*, n. sp. (Malvaceae).** A large tree. *Leaves* oblong, obtuse or subacute, base blunt rounded, coriaceous, glabrous above, with channelled midrib, beneath scaly raw sienna colour, nerves very numerous, and inconspicuous above, and hardly distinct beneath, 7-9 inches long, 2.5-3 inches wide: petiole thick .25 inches long, angled. *Flowers* in clusters of 2 or 3 on the trunk: peduncles short: pedicels .5 inches long, 4-angled, with 2 lanceolate bracts at their bases: floral bracts ovate, acute, 1 inch long and as wide. *Sepals* oblong, 2 inches long, acute, scaly, cinnamon colour. *Petals* linear, oblong, 1.5 inches long, outside scaly with fringed scales, cinnamon colour, within pubescent white. *Stamens* and pistil like those of *D. malaccensis*, Griff.

SINGAPORE: Bukit Timah (*Ridley* 3204); Ang Mo Kio (*Ridley* 6676); Seletar. JOHORE: in Johore Bahru (*Ridley* 6677), and Mount Austin (*Ridley* 11996).

***Scaphium longiflorum*, n. sp. (Sterculiaceae).** Tree. *Leaves* coriaceous, elliptic rounded, shortly acuminate, blunt, sometimes glaucescent beneath, nerves 7 pairs strongly raised, and the reticulations conspicuous beneath, above smooth, 4.5 to 6 inches long, 2.8 to 3 inches across: petiole 2.2 inches long. *Panicles* axillary, 6 inches long, sparingly red-tomentose, compact, much branched. *Flowers* numerous glabrous: bracts caducous: pedicels glabrous, .1 inch long. *Calyx* .3 inches long; tube cylindric, .2 in. long: lobes 4, much shorter, ovate, acute, all glabrous except the inner edges which are woolly. *Stamens* 8, in a globose woolly head, staminal column longer than the calyx tube, woolly.

PERAK: (*Scortechini* 2077 and 2026).

I have seen no female flowers or fruit of this species which was confused with *S. affine*, but from which it is very distinct in its long tubed glabrous flowers and woolly long androecium. The panicles are also much more glabrous.

I consider it advisable to keep the genus *Scaphium* distinct from *Sterculia* from which it differs not only in its membranous one-seeded carpels but also in the form of the flowers. Besides this there are known four other species.

1. ***Scaphium Wallichii***, R. Br., only known from one gathering in Martaban in Wallich's collection and described usually as *Sterculia scaphigera*, Wall. Cat. 1130. I have seen no flowers of this species which has much larger leaves than the commoner species, *S. affine*.
2. ***Scaphium affine***, Ridl. (*Sterculia affine* Masters). This plant is the "Kembang Semangkok" of the Malays and occurs in Singapore, Malacca and Pahang. Pierre's *Sterculia scaphigera* (Fl. For. Cochinchine, t. 201) may be this species but the flowers have not been seen.

The species is very distinct in its small short-tubed flowers with a very short stalked staminal column quite glabrous. The inflorescence is very tomentose.
3. ***S. Beccarianum***, (Pierre l.c.) is a native of Sarawak, in Borneo, and has quite glabrous flowers more resembling those of *S. longiflorum*. I found fallen fruits and leaves of what I take to be this species in the Matang forest. The fruit which has not been described is thin and green, 5 inches long and over 1.5 inches deep, much shorter and broader and quite blunt at the tip. The seed was an inch long.
4. ***Scaphium linearicarpum***, (*Sterculia linearicarpa*, Masters) a rare Malacca tree, belongs to the genus also.

Pterygota Roxburghii, Schott and Endl. Melet. p. 32 (*Sterculia alata* Roxburgh) (*Sterculiaceæ*) is given in King's *Materials* as a native of the Malay Peninsula on the strength of a specimen in Scortechini's collections without locality. The tree is a native of Southern India and the Andamans. It has been introduced from the Calcutta Gardens and largely planted as a road side tree in Singapore and Penang, and perhaps Scortechini's specimens are not from a wild plant. No one else has found it wild, and it would be advisable to leave it out of our Flora until we get additional evidence of its being a native tree. The genus *Pterygota* of which there are several species in Africa, is a very good one, and distinct from *Sterculia*.

Buettneria brevipes, n. sp. (*Sterculiaceæ*). A glabrous woody climber. *Leaves* coriaceous, elliptic, obtuse, base narrowed truncate, nerves five pairs conspicuous on both surfaces as are the reticulations, inarching within the margin, 4.5 inches long, 2 inches wide: petiole .2 inches long. *Cymes* numerous, slender, axillary, 1 inch long; pedicels umbellate, very slender, minutely pubescent. *Sepals* lanceolate, acuminate, .3 inches long. *Petals* about as long as the sepals, base obtuse with 2 short points at the upper angles, apex caudate. *Staminal tube* short, broad, cylindric: anthers small, oblong. *Ovary* small, ovate, conic 5-lobed bluntly with scabrid angles. Fruit not seen.

DINDINGS: at Simpiti near Lumut (*Ridley*).

Allied to *B. Curtisii*, Oliv. of Penang, but the leaves are much broader with more nerves and conspicuous reticulations. They are dark brown when adult and dry.

Buettneria uncinata, Mast. in Hook. fil., Fl. Brit. Ind. i. p. 377 and King, Journ., As. Soc. Bengal, p. 200, 91. (*Sterculiaceæ*). The type of this in Herb. Kew, is a fruiting specimen of *Mallotus Griffithianus*, Hook. fil. (*Euphorbiaceæ*) collected by Maingay in Malacca. Another sheet put with it in Herb. Kew as possibly the same is also a species of *Mallotus*.

Waltheria indica, Linn. is given by King as occurring "in all the provinces, a weed," I have never seen a specimen of this at all from the Malay Peninsula, either in Kew or the British Museum herbarium: nor have ever seen it myself anywhere in the Peninsula. It is a common weed in many parts of the world and may be expected to turn up; but it has not done so yet.

Murraya caloxylon, Ridl. (*Rutaceæ*). I found that this plant was flowering in the Singapore Botanic Gardens in the spring of 1915, although little more than a bush about 6 feet tall. The petals and stamens have never been described. The *petals* are 1·5 inches long and ·25 inches wide in the upper part; they are linear spathulate, gradually narrowed to the base and pale green, four or five in number. The *sepals* or rather lobes of the calyx are also either 4 or 5. The *stamens* nearly half an inch long, have long slender filaments, small oblong anthers with the connective prolonged into a short point beyond the cells; they are 8 in number. In the flower and foliage this plant resembles most a *Murraya*, but the fruit is quite unlike that of any species described, and is more like that of *Limonia*. On the whole I think it better to keep it in the genus *Murraya*.

Diodia sarmntosa, Sw. Prodr. Veg. Ind. Occ. p. 30. (*Rubiaceæ*). I found this new addition to our Flora abundantly on the East Coast road near Tanjong Katong in Singapore. It is a herbaceous plant growing as much as 2 feet tall, the stem hairy, four-angled, stout, the ridges crisped in the upper part. *Leaves* obovate, sessile, 2·5 inches long, 2·25 inches wide, apex subacute, base narrowed, hairy on both sides, with 6 pairs of nerves; stipules linear, bristles numerous. *Flowers* numerous, crowded in axillary heads. *Calyx* lobes 4, hairy, ·25 inches long. *Corolla* ·12 inches long, lobes rounded white tipped with lilac. *Capsule* ·1 inch long hairy, splitting from the top to near the base into 2 cocci, which dehisce on the inner face. Each contains one elliptic brown seed deeply grooved on the inner face.

This plant is a native of South America and the West Indies and also occurs in Tropical Africa and the Mascarene islands, but I cannot find any specimens from Asia in the Kew Herbarium, nor any record of its occurring in any part of Asia.

Dendrocalamus hirtellus, n. sp. (*Gramineæ*). A tall bamboo, about 40 feet long, and 2 inches through, but rather weak, walls thin, internodes long. *Leaves* broad, oblong, acuminate, with a long point, base broad rounded, glabrous above, softly pubescent beneath, 11 inches long, 1·5 inches wide; petiole thick, ·1 inch long, glabrous; ligule of few stiff bristles; sheath glabrous. *Panicle* branches pendulous, 3 feet long. Spikelets in dense heads ·5 inches through and 1·5 inches apart; bracts numerous ovate acute keeled. *Glume* I, lanceolate; glume II similar, but longer many nerved; III twice as long as I, mucronate; IV similar longer. *Palea* shorter, lanceolate, three-nerved, pale. *Stamens* 6, filaments free; anthers oblong, muticous, exsert. *Style* simple shortly plumed.

JOHORE: in forests at Genuang (*Ridley*) April 1915.

Schizostachyum elegans, n. sp. (*Gramineæ*). Stems slender, 1 inch through; walls rather thick: internodes long and weak; branches slender, whorled. *Leaves* thin, lanceolate, acuminate, pubescent beneath, margins denticulate, base narrowed to the very short petiole, 6 inches long, ·75 inches wide; ligule of few rather long bristles; sheath hairy. *Panicles* graceful, 15 inches long slightly geniculate, branches 2-4 inches long: spikelets ·25 inches long, light green, 4 or 5 in a fascicle, with several ovate bracts at base, fascicles little over ·25 inches apart. *Glume* I ovate; II longer, lanceolate, shortly mucronate; III still longer, mucronate; IV similar but longer. *Palea* a little shorter, lanceolate, not keeled, glume-like but thinner. *Stamens* 6; filaments free; anthers exsert, oblong, obtuse, violet. *Ovary* conic, stipitate, subtriquetrous: style simple, grain obliquely blunt conic stipitate.

KEDAH: Lankawi Islands: common, cultivated in the Botanic Gardens Penang, where it forms a large bush of sarmentose habit and where it flowered in March 1915.